SHINN REPORT = 1972 : FUNDS FOR FLOOD CONTROL PROJECT AREA ALLOCATED. FED. GOVT ALLOCATED $4.2 million & the STATE, $1.4 million; funding of project was previously denied in 1970

USDA-SCS-ES-WS-(ADM)-73-15(D)

THE KAHALU'U WATERSHED PROJECT

City and County of Honolulu

Draft Environmental Statement

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Local Sponsoring Organizations:

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USDA ENVIRONMENTAL STATEMENT, KAHALU'U WATERSHED, CITY AND COUNTY, HONOLULU, HAWAII

Prepared in accordance with Sec. 102 (2) (C) of P. L. 91-190, Summary Sheet.

1. Draft (x) Final ( ).

2. Soil Conservation Service.

3. Administrative (x) Legislative ( ).

4. Federal Assistance for a Watershed Protection and Flood Prevention Project for Kahalu'u Watershed, City and County of Honolulu, Island of Oahu, through Public Law 566, 83rd Congress, 68 Stat. 66, as amended.

5. Favorable Environmental Effects:

The project will reduce erosion on cultivated and other land; protect 292 acres of agricultural and urban lands from floodings; reduce annual flood waters, erosion and sedimentation damages by $314,680; improve the quality of water that enters Kaneohe Bay; reduce degredation of marine habitat in Kaneohe Bay; create a lagoon for recreation and a marine habitat; reduce risk of life; improve social and economic conditions.

6. Adverse environmental effects:

The project will replace 11,850 lineal ft. of natural stream with improved channels, remove 34 acres from grass production, require the relocation of 14 families, 25 elderly bachelors and one business; create some water, air and noise pollution during construction; remove some trees and other vegetation; create high velocity flow of water

in channels during floods; eliminate aquatic habitat in portions of of the streams; and will cause an increase in land values and real-estate taxes.

7. Alternatives considered were: Restricting further development in the watershed and making flood insurance available to the inhabitants of the flood plain; permanent evacuation of the flood plain and providing structural measures to prevent flood damage. Structural measures considered were enlarged but unlined channels, flood-water retarding structures, lined channels and debris basins. Other elements of the plan include land treatment practises to reduce erosion and run-off from the upper water-shed.

8. A preliminary draft of this statement was not prepared for distribution because Public Law 91-190 had not been enacted at the time the work plan was submitted to Washington, D. C. The Kahalu'u Watershed Work Plan was sent to various federal, state and local agencies and other interested parties. Comments on the Work Plan were received from the Department of the Interior; National Parks Service, Western Region, U. S. Department of Interior; Bureau of Water Hygiene Environmental Control Administration, Department of Health, Education and Welfare; the governor of Hawaii; University of Hawaii Cooperative Extension Service, College of Tropical Agriculture; and the Division of Fish and Game, Department of Land and Natural Resources, State of Hawaii.

U.S.D.A., Soil Conservation Service Environmental Statement:

Type of Statement: Draft (x) Final ( ).

Date: August 1972.

Type of Action: Administrative (x) Legislative ( ).

Title of Statement: THE KAHALU'U WATERSHED PROJECT, CITY AND COUNTY OF HONOLULU, HAWAII.

1. Description: Authority for project - Federal assistance through Public Law 566, 83rd Congress, 68 Stat. 666, as amended.

Sponsoring Local Organizations: Windward Oahu Soil and Water Conservation District and City and County of Honolulu.

Project Measures: The project plan provides for conservation land treatment measures and the following structural measures: four concrete-lined channels totaling 11,850 ft.; two debris basins; two energy dissapating structures; and a 28-acre multi-purpose lagoon. The lagoon will be grass-lined and will be encircled by a 22-acre park with recreational facilities.

Environment Setting: The Kahalu'u Watershed Project is on the Windward northeast side of the Island of Oahu, Hawaii. It is 5 miles northwest of Kaneohe, 11 miles northeast of Honolulu and is on the fringe of the urbanizing area.

The town of Kahalu'u, set along the shores of Kaneohe Bay, is the center of activities in the watershed (see project map).

The Kahalu'u watershed is 4,420 acres in size. The upper and lateral boundaries of the watershed are formed by the nearly vertical cliffs of the Ko'olau Range and mountain ridges that extend to Kaneohe Bay which forms the lower boundary. From nearly vertical cliffs, the land slopes toward the bay and flattens into a flood plain.

In the upper watershed there are three amphitheater-shaped valleys that are drained by the 'Ahuimanu, Kahalu'u and Waihe'e Streams. These streams join in the flood plain to form the main Kahalu'u Stream that flows into the bay. The Kamehameha Highway, the only thoroughfare that connects Kahalu'u with Northern Oahu, is located along the shore-line of the bay. The bay is fringed with coral reef and is a haven for small fish and crabs.

The population within the Watershed remained relatively static in the 1950's. Since then it increased from 3,340 in 1960 to 5,480 in 1966, but dropped to 4,350 in 1970. However, there is evidence of greater potential. Many single family dwellings and town houses are under construction and urban development is expected to continue because of the need for more homes.

The City and County of Honolulu Planning Department has projected a population of 10,000 by 1975 and 16,500 by 1985.

Historically the economic basis of the watershed has been agriculturely oriented and agriculture continues to be important. However, in recent years much of the area has been converted to urban use. Fast, modern highways have accelerated suburbanization by placing Kahalu'u within easy commuting distance to Honolulu. They are also only 10 minutes from the Kaneohe-Kailua (urban) complex, the second largest urban center in the State.

Most of the people in the watershed commute to work in Honolulu or other areas. There is a critical need for off-farm employment in the watershed. The 1960 U. S. Census listed a male civilian population of 1,171 of which 6.2% were unemployed; the female labor force of 513 had an unemployment rate of 13.0%. In comparison, the island unemployment rate was 3.0% for males and 5.2% for females.

Although the Kualoa-Kahalu'u area has a smaller population than neighboring census tracts, the number of persons on welfare is comparitively higher. As of June 1965 there were 170 welfare cases, most of which were located in the watershed area.

Land use in the watershed is as follows: 52% forest land, 20% grassland, 23% agricultural land and 5% business-residential use.

Most of the forest land is in the upper watershed area, is in the Waiahole Forest Reserve and is very steep. Its natural vegetation is not suitable for timber. Although different species can be grown, it is unlikely that a timber industry will develop.

The major plant species in the forest land are koa (Acacia koa), java plumb (Eugenia cumini), kukui or candlenut three (Aleurites moloceana), hala (Pandanus odoratissemica) guava (Psiduim guajava), and hau (Hibiscus tiliaceus). Ground ferns are common in the under story.

In one cultivated area of the lower watershed the main vegetation is Java Plum and paragrass or Californiagrass (Brachiaria malica). This grass grows profusely in the flood plain and along streams and is the dominant forage plant in the watershed.

A survey in the watershed showed a total of 280 acres of land not protected by vegetation. Of this it was estimated that 166 acres are not active sediment sources. There are approximately 69 farms in the watershed of which 35 are family-type, employing less than 1-1/2 man years of outside labor. The farms are generally small, averaging about 6 acres in size. The agricultural operations are primarily oriented to the production of taro, papaya, bananas and various truck crops. Tropical flowers and ornamental plants are also produced commercially. Other agricultural operations include several poultry farms and livestock farms.

Taro, used to make poi, the Hawaiian food staple, is one of the more important crops in the area. About 52% of the taro grown on Oahu is produced in the Kahalu'u watershed because of the drastic decrease of taro production on the neighbor islands in recent years.

Taro farms that occupy the bottom lands are especially vulnerable to flooding. According to the State Department of Agriculture, floods in early 1966 caused an estimated 25% drop in poi production for that year. Flood in the watershed have contributed to a 50% reduction of taro acreage on the island of Oahu.

Taro farmers use large amounts of water to flood-irrigate the taro patches. They obtain the water from streams through a net-work of open ditches. The truck crop farmers and flower growers obtain irrigation water from domestic lines as well as from streams.

The truck crop farms are highly market oriented. The main crops grown are snap beans, Manoa lettuace, cucumber and daikon. These crops can be harvested as many as four times a year. The gross value of truck crops averages between $10,000 and $20,000 per farm per year.

In 1969 crop land in the w tershed was valued at an average of .20¢ per square foot or approximately $8,700 an acre. Unimproved land zoned for residential use had an average market value of about $12,000 an acre. Commercial land was valued at $1.10 a square foot or approximately $48,000 an acre.

The high land values are due to the relative scarcity of developable land because of steep terrain and the control of a large part of the land by large holdings.

The watershed is served by the Soil Conservation Service Work Unit in Honolulu. This work unit provides technical assistance to the Windward Oahu Soil and Water Conservation District. Within the watershed there are 26 cooperators including the Division of Forestry, controlling 58% of the total watershed area. About 12% of the needed conservation measures in the watershed have been applied.

The soils in the watershed are formed from volcanic rocks and alluvium from these rocks and can be grouped into four general soil areas as follows:

I. Hanalei. II. Waikane. III. Alaeloa. IV. Rock Outcrop.

Hanalei - Pearl Harbor General Soil Area: This area comprises about 14% of the watershed and consists of very poorly drained soils developed from recent aluvium. It occupies the gently sloping bottom lands adjacent to the ocean and along the streams, extending to about 600 ft. elevations in the upper valley. These soils have a high water table. Most of the area is in grass, with some acreage in taro and bananas.

Waikane - Loleka'a General Soil Area: This area comprises about 50% of the watershed and constitutes well-drained soils developed from old aluvium and colluvium. It occupies the gently sloping to moderately steep Aluvial fans and terraces and steep colluvium slopes. The soils are deep, more than 6 ft. to bottom rock. Elevations range from 100 to 800 ft. The gently sloping to moderately steep soils are used for truck crops, bananas and home sites. The steeper soils support vegetation which helps to protect the watershed.

Alaeloa General Soil Area: The Alaeloa series is the only soil in this general soil area. It is well-drained, occupies steep uplands and comprises about 8% of the watershed. The soil is deep to bottom rock but shallow areas along the ridge tops are included. Elevations range from near sea-level to 500 ft. Most of the area is in grass and bush. Small areas are used for home sites.

Rock Outcrop and General Soil Area: Rock outcrop occupies the precipitous cliffs of the Ko'olau Range. This general soil area occupies about 28% of the watershed.

The rainfall pattern in the Kahalu'u watershed is influenced by the northeasterly tradewinds and the Ko'olau Range. Rainfall is highest in the mountain range and decreases toward the bay. The average annual rainfall is 180" in the upper water shed near the mountain range. In contrast, it averages 70" near the bay, only 2-1/2 miles away.

There are many varities of small birds such as the dove, sparrow, cardinal, white-eye and mynah. Some rare species of the Hawaiian birds, such as the elepaio inhabit the forested areas in the upper watershed. Species of birds that inhabit the coastal area include the ruddy-tern, black crown heron and the golden plover. Pheasants are occasionally seen throughout the watershed.

Small animals such as the mongoose, rat and domestic-cat-gone-wild are common. A few feral pigs inhabit the upper water shed. There are no big game animals. Hunting is almost non-existent in the watershed.

Sea life along the watershed coastline is similar to that of most tropical islands where colorful fish and other marine life live in and around the reefs. Fish caught for food include the mullet, papio, omaka, barracuda, weke and awa, to list a few. There are many other small fish in these coastal waters which are not caught for consumption. The nehu, an indespensible live bait, is found in the bay and in brackish waters of the streams. Other marine life includes crabs,

shrimp, octopus, eel, a number of mollusk and sea weed.

In Hawaii the mullet is one of the most important food fishes. It has been reared in ponds for hundreds of years. The Kahalu'u Pond, one of such ponds in the watershed was damaged by the May 1965 flood and has never been repaired.

Wildlife in the streams include the tilapia, which was introduced to Hawaii as a bait fish, is plentiful in the streams, particularly near the coast.

In the Hawaiian Islands torrential rains that occur throughout the area are produced by 3 classes of weather disturbances. These are the cold-front storms, the cyclonic "Kona" storms and the rarer tropical storms or hurricanes. These major storms usually occur during the months of October through May.

In addition to the major storms, the Windward section of Oahu, including the Kahalu'u Watershed, are subjected to intense local storms. These storms are more severe during the winter and spring months. Local storms occur for relatively short periods of time but include bursts of extremely high rainfall intensities.

There is an ample supply of excellent quality domestic water in the watershed and no future deficit is anticipated. The Board of Water Supply has two high-level tunnels, the Kahalu'u and Waihe'e tunnels, that serve the area. These tunnels obtain water from the dike zone of the Ko'olau Range. The tunnels are in the forest reserve at elevations higher than most of the residential area so very little pumping of water is necessary.

Water and Water Related Land Resource Problems: All runoff from the Kaneohe Watershed enters the 14-square mile Kaneohe Bay. In recent years there has been much pollution in the bay from sewage and sediment. It is reported that coral formations are dying due in part to sediment that is deposited in the bay. Other marine life also is affected. The beaches are muddy from many years of sediment deposition. From U. S. Geological Survey data it is estimated that the average annual sediment load from the watershed is about 1.5 acre-ft. of sediment per square mile.

According to the Honolulu Department of Parks and Recreation, the small neighborhood school-park complex which now serves the Kaneohe community is inadequate to provide balanced recreational programs for all age groups. The need for the recreational facilities is becoming more critical with the increasing population.

Flooding also is a serious problem in the Watershed. Twenty-one floods occurred in the 35-year period from 1936 to 1971. Damage to agriculture, residential, commercial and industrial improvements has resulted from the high velocity flood flows. The destruction of roads, brkdges, homes and cars by floods has become a common occurance. In the April 1963 flood one bridge and one home were demolished. In 1965 two floods damaged three bridges and demolished five homes. Numerous other homes were moved off their foundations.

With each flood there is a constant threat to life. One drowning occurred during the height of the storm of December 1966 and five people were rescued after they were swept into the raging Kahalu'u stream during the 1965 flood.

The storm of May 1965 which was about a 17-year frequency, is representative of the large floods in the watershed. Approximately 250 acres were inundated, causing $322,194 in direct damages. There was also considerable non-monetary damage. Many hones were isolated because of damaged or destroyed bridges. The water main remained broken for many hours, creating a health hazard. Land transmission lines for the military communications system vital in case of a military emergency, were inoperative for several hours. Many people were rescued through operations by various agencies including the City and County Fire Department, U. S. Marine Corps, Red Cross and Hawaii Army National Guard. Amphibious vehicles and helicopters were used. Fortunately, no lives were lost.

The storm of November 1965 produced a small flood typical of about a 3-year frequency event. This flood cost $16,098 in direct damages. The small, more frequent floods over top the channels and cause shallow water to spread over an area of approximately 100 acres. Erosion causes considerable damage to residential lots and bridges. Additional damages and considerable inconveniences are caused by sediment deposition in lawns, farm lots and commercial establishments.

Erosion and sediment pollution occur with every storm. There are many sediment producing areas in the watershed, including erosion scars, road cuts, construction sites and cultivated fields. Additional sources of sediment can be expected as more and more land is converted to urban uses until they are protected by vegetation and other cover. When the land is paved or covered with homes, more of the rans can be expected to run off the land. This increased runoff can add to the flooding problem in the flood plain.

Natural channels in the flood plain have moderate gradients but very low drainage capacities. They are choked with thick vegetation and contain much debris and sediment. Maintenance of these channels is very difficult. Except for outlets of these channels at the bay, there is little or no maintenance performed, thus the channel capacities are reduced with each storm and the streams frequently overflow their banks.

When the streams overflow their banks, the water has sufficient velocity to cause erosion and carry large sediment loads. Effects of the high sediment loads in the flood water are demonstrated by the hundreds of man-hours required to clean up after each flood.

Floods and threat of floods in the watershed have depressed the agricultural activity in the bottom lands. Major damage to agricultural land is loss of crops. Farm improvements and live stock also receive some damage. Other damages result from inundation, erosion, debris disposition and spreading of noxious weeds.

A State Land Use law passed by the first State Legislature in 1961 provided for the zoning of all lands by use. It empowered the State to classify and relegates uses to urban, rural, agricultural and conservation purposes. The main objectives of the act were to protect prime agricultural land from needless residential development and enduce orderly growth. The Kahalu'u watershed urban-zoned lands are still relatively undeveloped with most still in agricultural use.

Large areas in the flood control plain are zoned for urban uses, yet most of these lands are used for pasture or remain idle because of the flood hazard. The City and County does not permit urban development in flood-prone areas unless the flood hazard is eliminated.

Planned Project: The proposed land treatment and structural measures are designed to compliment each other and provide an integrated approach to reduce erosion, flooding and sediment pollution.

Land owners in the watershed will be encouraged to apply conservation measures on their land and technical assistance will be available to help them. The measures to be applied include crop residue using contour farming, in-field diversion conservation cropping, a system of grassed waterways, pasture management, critical area planting and reforestration.

Emphasis will be placed on a land treatment program for existing sediment sources. The Windward Oahu Soil and Water Conservation District and the Kahalu'u flood control committee will continue to spearhead an erosion control program by encouraging home owners, farmers and others to vegetate erosion scars, road cuts and other bare areas to reduce erosion as well as beautify the area. They have actively participated in grass planting along the highway.

The structural measures for flood prevention will supplement the land treatment program in reducing erosion, flooding and sediment pollution. These measures are designed to control the flood flows and prevent flooding along streams and in the lower sections of the watershed. The structures will carry storm run-off for up to and including the 1% chance of occurances (100-year storms event). Four concrete-lined channels totaling 11,850 ft. will be installed on the reaches of the Kahalu'u and 'Ahuimanu Streams and two branches of Waihe'e Stream (see project map).

The lined channels will follow existing streams as closely as possible in order to reduce land acquisition and construction costs. By following existing streams, very little crop land or other land will be taken out of production for channel use. The channels will be curved as much as possible to make them aesthetically more pleasing.

A 28-acre lagoon is planned for the flood plain. The Banks of the lagoon will be vegetated and the lagoon will be encircled by a 22-acre park with recreational facilities. At the Kamehameha Highway the lagoon will transition into a rock-lined channel to outlets into Kaneohe Bay. The existing channel outlet will be widened from about 90 ft. to 300 ft. The lagoon will be excavated to a depth that will allow tidal ebb and flow of Kaneohe Bay waters. The mouth of the channel will be excavated to increase flow rapidity, water circulation and to minimize channel accretion during storm flows. A narrow channel will be excavated out to deep water in Kaneohe Bay

to allow boat passage during low tides.

Flood waters entering the lagoon from the channels will be flowing at high velocities. To slow water as it enters the lagoon, two energy dissipating structures will be built at the points where the channels enter the lagoon. For the most part these structures will be built below water level so as not to be unsightly.

Debris basins will be built to prevent boulders and other debris from intering the channel systems. One will be built at the inlet to the enlarged Kahalu'u Stream and the other at the inlet to the enlarged Waihe'e stream. The basins are located at sections of the streams where the natural topography will demand a minimum of amount of excavation. Accumulated debris will be removed from the basins after every major storm or at least annually.

The City and County of Honolulu, the Windward Oahu Soil and Water Conservation District and the Soil Conservation Service will jointly insepect all structures annually or after severe floods for a period of three years following installation of the project. After the third year, the City and County of Honolulu will make the inspections and will submit a report to the Soil Conservation service stating corrective measures needed and action taken.

Recreational facilities will be installed in the 22-acre park surrounding the lagoon. The facilities designed by the City and County of Honolulu Department of Parks and Recreation include trails, roads, parking areas, comfort stations, picnic sites and a boat ramp. Landscaping of the recreational area will be designed to maintain a tropical atmosphere and to blend with the nearby mountains and adjacent ocean.

Fencing for protection and safety of the public will be installed at the energy dissipating structures and up-stream channels in the proximity of the recreational development.

Four reinforced concrete bridges and culverts to replace existing road crossings will be included in the channel construction project. The sponsors will assure that the project complies with the City and County grading ordinance and the State Water Quality and Health regulations. During the installation of structural measures contractors will be required to adhere to strict specifications to minimize soil erosion, water, noise and air pollution. All unlined slopes will be vegetated immediately following final shaping.

The City and County of Honolulu will operate and maintain all structural facilities. The estimated annual cost and maintenance is $61,470.

The estimated total cost of the project is $7,974,850. Of this amount, $4,209,850 will come from federal funds through authority of Public Law 566. The remaining $3,765,000 will come from other sources, including State and County funds.

2. Environmental Impacts:

The proposed watershed project will have a major impact on the development of the Kahalu'u area. Many areas now zoned urban cannot be used for that purpose because of City and County restrictions that prevent development in flood hazard areas. Presently the land use within the flood plain is devoted to unimproved pasture with areas of taro, fruit trees and vegetables. Small areas for house lots are located mainly along paved roads and other tracts are developed for house lots.

Approximately 89 residences, 35 farms, 10 businesses and four utility installations, including a sewer treatment plant and a telephone sub-station will be protected from flood damage. Damage to other personal property will be limited or reduced and danger to human life and live stock also will be reduced. Old bridges and stream crossings will be improved so they can be used safely during floods, thus preventing many of the residents from becoming stranded. Utilities, including water, sewer, electricity and telephone will be protected thus safe-guarding the health and welfare of residents. Military communication lines vital to the nation for emergencies will be protected.

Although the planned project will prevent floods that once covered the 292 acre flood plain, approximately 70 acres of flood plain lands will still be subject to damage during major storms. These are the areas along the streams above the limits of the structural work of improvement. Although mostly undeveloped, some small acreage of pasture and cropland will still be inundated. Other unprotected works include some Board of Water Supply transmission lines and roads in the upper watershed.

Urban development of improved land in the flood plain will increase land values and realestate taxes in the water sheds and higher taxes may force some to sell their land. This is especially true for those who are currently using urban-zoned land for agriculture until there is a change in zoning, which may occur as urban pressures grow.

Also the high land taxes and increased urban pressures may force the sale of "Kuleanas (small ancient Hawaiian land divisions) within the watershed. The ownership of these Kuleanas is handed down through generations and is divided among the many decendents. In many cases these kuleanas are small and presently are occupied by one family. Because of the large number of owners, the sale of these kuleanas will bring only a small return per owner and would disrupt the manner of family livelihood, forcing some families to seek welfare aid. Preservation of these kuleanas and protecting the life-style that it provides is important to the Hawaiian people.

The total value of homes, businesses, highways, bridges and other improvements protected from flooding is estimated to be over $6.7 million. Fully developed improvements based on projected future land use under present zoning would have a market value of $64.6 million.

All of the main streams in the area are perennial and support

various kinds of aquatic wild life. Above the proposed structural measures the streams will not be affected but construction and will continue to support aquatic species. The lagoon will provide a good habitat for brackish water wild life according to officials of the Fish and Game Division, State of Hawaii. Species such as mullet, nehu and crabs are expected to increase. The lined channels will eliminate shallow natural pools and will affect the wildlife habitat in these portions of the streams.

The 28-acre lagoon will be excavated in an area presently used for unimproved pasture. This area is inundated each time there is a major flood. The lagoon and the surrounding 22-acre park will provide a much needed recreational area for the County, as well as create an excellent habitat for coastal wildlife. Much of the sediment carried by the flood waters will settle in the lagoon. Periodic cleaning will be needed to remove the sediment. The reduction of sediment entering Kaneohe Bay will enhance the movement under way to clean up the bay.

The multi-purpose park-lagoon complex will provide year-around water based recreational facilities for island residents and visitors. There will be new opportunities for boating and fishing. The quality of water, however, may not meet the requirements of the State Public Health regulations for National Bathing Places. The project does not purport to improve the quality of water to make it suitable for swimming. The Honolulu Department of Parks and Recreation has estimated that the park will annually draw $95,000 visitor days from the local population. These users will include picnickers, fishermen and boaters who will spend a considerable part of the day at the recreational area. The number of non-resident visitors who will use the facilities is estimated to be 120,000 annually. [illegible]

Structural measures including the lagoon and park will occupy 66.7 acres of the land as follows: lagoon, 28; park, 22; depression basin, 3.2; and channels, 13.5 (11,850 sq. ft.) Most of the land is occupied by streams or is used for pasture and is inundated during the major storms. About 34 acres of grass land and a small area of crop land along the streams will be eliminated from agricultural production. A total of 25 homes which are frequently inundated during floods will be removed, however, the sponsoring local organizations will provide relocation agency assistance services through the Honolulu Redevelopment Agency and make relocation payments to displaced persons as required by the Uniform Relocation Assistance and the Real Property Acquisition Policies Act of 1970 (Public Law 91-646, 84 Stat. 1894). The relocation of 25 homes will affect about 14 families and 25 elderly bachelors. Those affected will be compensated as required by the Uniform Relocation Assistance and Real Property acquisition policies act of 1970. They will be assisted in finding comparable housing that is "decent, safe and sanitary". In most cases they will be moving into better homes because most of the homes to be relocated are sub-standard and are not "decent, safe and sanitary". There will be a certain amount of inconvenience in finding a new home, moving and adjusting to new surroundings. The elderly bachelors especially will have difficulty adjusting to new ways of life. The relocation of these families will be beneficial because of the damage to their health and safety during floods.

The project will require the relocation of a 30" water main along Kamehemeha Highway at KA-1 lagoon crossing. A portion of the existing Aho'olelo Rd. will be replaced up-stream from the lagoon.

The planned structural measures will safely carry flood waters through the lower watershed. Debris basins at two of the channel inlets will prevent debris from entering the channels and Kaneohe Bay.

The average annual cost of the structural measures is $387,500 (includes $61,470 for operation and maintenance). The benefit/cost ratio is 1.3:1.0, including recreational and local secondary benefits. (See Table 6 for comparison of benefits and costs for structural measures.)

Unevaluated project benefits include improved aesthetic conditions and protection of human life.

Total average annual flood damage would be $316,110. Installation of project measures will reduce damage to $1,430. The difference of $314,680 in flood damage reduction benefits is adapted to proposed land treatment amounting to $955,670 and structural measures amounting to $6,631,450.

Conservation practices on farms and ranges help to improve production efficiency and conserve soil and water. Conservation practices on bare areas such as erosion scars, construction sites and road cuts will reduce erosion on these unsightly blemishes. The residential areas will require measures that must be installed by individuals or groups of home owners. These measures will stabilize a major source of sediment and minimize damage to homes, businesses, roads and other improvements.

The State has issued water quality standards for all coastal waters. Land treatment in the watershed will help land users to comply with the water quality standards.

Land treatment measures will reduce the volume of sediment being transported to Kaneohe Bay. Since sediment is one suspected killer of coral reefs, the reduction of sediment entering the Bay will help restore the off-shore coral and improve the marine habitat.

Land treatment measures of the planned project will reduce annual flood plain damage by approximately $14,130. the Flood project structural measures will provide annual damage reduction benefits amounting to $300,550. Recreational benefits amount to $144,810 and secondary benefits amount to $40,700. Secondary benefits from a national viewpoint were not considered in the economic evaluation of the project.

Although the debris basins, channels and lagoon will eleminate most of the flooding and sediment damage in the flood plain there will still be sediment run-off during major storms. The water entering Kaneohe Bay will still be cloudy due to suspension of final soil particles.

Hui Ko'olau, the Community Association of Kahalu'u has long-range plans to guide and control the growth of the Kahalu'u area. The association has worked closely with government agencies to assure

that the area is developed in an orderly manner. By act of the State Legislature for the Kahalu'u area, it has been declared an ecological model for the State. The orderly planning of the area is dependent on adequate flood control assistance as a first basic step. Many community improvements proposed by Hui Ko'olau, government agencies and other organizations will become possible when the project is established.

The development of shopping facilities and public service facilities will make Kahalu'u a more self-sufficient community. Residents will be able to shop and conduct their business in Kahalu'u rather than travel to Honolulu or Kaneohe. There will be new job opportunities for those who are unemployed or for those who prefer to work closer to home and, and greater vehicular traffic as urban development and population increases.

According to the National Park Service System Region, U. S. Department of the Interior, the Kahalu'u fish ponds and six heiaus (religious temples) in the vicinity of the project are important historically and archaeologically. No other places of historical or archaeological importance are known to be located in the project construction area. The six heiaus will not be affected by construction. The fish pond which was damaged in a 1965 flood can be repaired and protected with little risk of flood damage after the project is installed. Should there be concern for articles of historic and archaeological significance within the proposed construction area, the Department of Land and Natural Resources can require an archaeological survey as specified in Hawaiian Revised Statuates, Chapter 6.

3. Favorable Environmental Effects:

A. Erosion will be reduced on cultivated lands, grass lands and urban lands, including natural and man-made erosion scars. Vegetation to reduce erosion will restore the beauty of the area. Kamehameha Highway and 292 acres of adjacent flood plain containing cropland, pasture land, 25 homes and commercial enterprises will no longer be flooded.

C. Annual flood water erosion and sediment damages will be reduced by $314,680.

D. The amounts of sediment carried by the streams will be reduced and the lagoon will trap a large quantity of sediment, thus improving the quality of water that enters Kaneohe Bay.

E. The degredation of the marine habitat along the coast will be reduced.

F. The lagoon will provide a good brackish water habitat for marine life according to the Fish and Game Division of the State of Hawaii.

G. The lagoon-park complex will provide recreational facilities for residents and visitors.

H. The risk of loss of life during floods will be reduced.

I. The poorly drained land along the streams and in the flood plain will be improved by the lowering of the water table near the structural measures.

J. A winder choice of crops may be possible because of removal of the flood hazard and the lowering of the water table.

K. The threat of disease which becomes prevalent during floods will be removed.

L. It will be possible to install many works of improvement such as street widening and better street alignment and sewer drainage systems.

M. It will be possible to construct new buildings in the no flood prone urban zoned land when the area is protected by the project.

N. Social and Economic conditions in the watershed will be upgraded. Increased urbanization will bring about improved public service facilities such roads, sewers and schools.

O. The eventual development of shopping facilities and public service facilities will make Kahalu'u a more self-sufficient community.

P. It will be a short term imployment opportunity created by installation of the project and indirect long-term employment opportunity created by increase in business activities.

Q. The general standard of living for residents in the watershed will be enhanced by the change from a depressed area to that of a more prosperous self-sufficient community.

4. Adverse Environmental Effects which Cannot be Avoided:

A. Approximately 12,000 linear ft. of natural stream channels will be enlarged and lined with concrete.

B. About 36 acres of flood prone land will be removed from grass production.

C. The relocation of 25 homes will affect 14 families, 25 elderly bachelors and one business.

D. There will be a safety hazard because of high velocity flow in the channels even though fencing is proposed in certain sections of the channel.

E. The habitat for equatic wildlife will be eliminated by the installation of lined channels.

F. Some trees and other vegetation in the construction area will be removed.

G. Some water, noise and air pollution will occur during construction.

H. The project will not eliminate all flooding. Approximately 70 acres of flood prone land above the proposed watershed appurtenances will still be subject to inundation during major storms.

I. The project will accelerate construction of new buildings in the now flood-prone urbanized land when the area is protected by the project. This will cause urbanization of Kahalu'u.

J. Land values and real estate taxes will increase, forcing some farmers and residents to move or change their way of life.

K. There will be increased vehicular traffic as urban development and population increases.

3. General Alternatives to the Planned Project for Eliminating or Reducing Flood Damages in the Watershed Include:

A. Restricting further development and making flood insurance available for those already established in the flood plain to offset the monetary loss from flood damage.

B. Moving people and high value property from the flood plain for protection and safety.

C. Providing structural measures that will prevent damages.

Another consideration is whether or not anything should be done in the area to prevent flood damages.

Although most development is not planed for the flood plain, it is planned for the upper watershed nearer to the mountains where development can have a significant effect on the flooding conditions without becoming a part of the flood damage area. Development changes the hydrologic conditions without the availablity of the vegetative ground cover to retard run-off and the opportunities for rain water to percolate deep into the ground are reduced. House tops and paved streets contribute almost total rainfall to run-off. These conditions increase the volume of run-off from developed areas and have an effect of indeterminate magnitude on the flood problem.

Increased run-off causes water in the channels to rise sooner and to flow a little deeper, faster and for a longer period of time. Run-off from small storms may over-top channel banks more frequently. However, it is the larger and less frequent storms that cause the most damage. It is not possible to know with certainty whether any given storm would or would not have caused damage because of the development of areas in the watershed. Neither is it possible to determine with certainty that monetary losses resulting from any given flood would have been less if development had not been permitted. Monetary damage begins and increases very rapidly upon first wetting rather than because of depth or delays of submergence. Depth increases the quantity of damaged items which then significantly increases the dollar value of damages.

By itself the restricting or prohibiting of development in an area is not a substantial alternative for flood prevention. It is a desirable means by which development can be evaluated and appropriate plans prepared to handle the resultant problems. Also, it points out the critical need for such an evaluation but it does nothing to protect existing facilities that have been subject to damage.

The planned project gives full consiadration for the effect of additional development on the flood hazard in the watershed. Flood insurance for those who can afford it and who will buy it will offset monetary losses for property damage but it cannot relieve the distress or anxiety of those caught in the flood. Nor can insurance fully compensate the sentimental value and loss of property or life.

Another form of protection for life and property is the permanent evacuation of the flood plain area, however, evacuation causes other problems. The life-style of the re-located people is changed as they settle in new locations and new surroundings. The associa-

tion of people sharing one or more of the homes in the area would be disrupted if similar conditions were not available.

The evacuated area could be managed for uses consistent with the flood hazard, however the economic return from the land would have to be sufficient to support the land owner or operator and meet all over-head expenses.

Although evacuation would protect the life and property of those people living in the flood plain, it is not a desirable alternative. Few of the inhabitants own their homes. Income from rental units is one way by which the land owner can meet over-head expenses and get a return on his investment.

Flood proofing to protect life and property in the area requires a combination of structural measures. Buildings in the most frequently flooded area could be raised on stilts placing the floor well above maximum flood elevations. Buildings that cannot be raised should have all valuable contents stored in a place higher than flood stages. Raising many of the older homes is not economically sound and it would not solve the problems of isolation and health that are associated with flooding.

Systems of dikes constructed along the existing streams would reduce the size of the area inundated by each flood. The bridge in Kamehameha Highway and the channel to the bay should be enlarged to pass flood waters to the bay more quickly and reduce the size of the area where flood water ponds are adjacent to the highway. However, problems of channel erosion and sedimentation of the bay would remain unsolved.

Channels with vegetative lining were considered. The increased cost of providing wider strips of high priced land, the relatively steep slope of the land, vulnerability to erosion, the cost of relocating some homes and other structures, and the increased maintenance cost favored the concrete lined rectangular channels.

Flood water retarding reservoirs for control of flood flows were investigated. There are no suitable sites in the watershed area for flood water retarding reservoirs, due mainly to steep terrain.

Land treatment measures alone will not solve the flood hazard, although it would reduce the quantity of sediment that enters the flood plain and coastal waters. Without the proposed structural measures, flooding will continue to be a threat to life and property.

Withdrawing all of the cultivated lands and replanting the area, including the land slides and construction scars with permanent vegetation would significantly reduce sedimentation. But the threat of floods and loss of life would remain.

The proposed plan as formulated will solve the problems of flood waters, erosion and sediments in the water shed. The plan comprised of parts from each alternative is designed to protect life and property in the flood plain while considering future develoOment to meet the needs of people consistent with good long-term use of the land and water resources.

Net monetary benefits that will be foregone by implementing the

project are estimated at $98,560 annually.

6. Relationship Between Local Short Term Uses of Man's Environment and the Maintenance and Maximum of Long Term Productivity:

The plan provides protection for the present and future use of the benefited land. It will permit efficient use of the land for a continued economic return for the owners and will permit the land to be used in conformance with long-term plans of the County.

Annual and recurrent land treatment measures will prolong the use of the soil and water resources after the designed life of the project, although replacement of some structural measures may be necessary at that time.

7. Irreversible and Irretrivable Commitment of Resources:

Labor and construction material are the irreversible and irretrivable resources committed through the implementation of this project. Installation will commit about 56 acres of land to channels, the lagoon and debris basins. This land already is in stream channels, grassland or unimproved pasture.

The land committed for the installation of the project is not considered irreversible or irretrivable. However, development of the area following implementation of the plan may cause other irreversible or irretrivable changes in the terrain and vegetation of the area.

8. Consultation with Appropriate Federal Agencies and Reviews by State and Local Agencies Developing and Enforcing Environmental Standards:

General: After the flood of February 1965 the residents of the Kahalu'u community formed a "flood committee" to look into the possibilities of correcting the flood problem. The committee contacted a number of federal, State and local agencies before requesting assistance through the Windward Oahu Soil and Water Conservation District and Soil Conservation Service of the U. S. Department of Agriculture under the provisions of Public Law 566.

The Windward Oahu Soil and Water Conservation District held the first public meeting for residents in the area on April 29, 1965 to see what could be done about flood problems. Assistance through Public Law 566 was explained. Preliminary investigation was initiated to determine feasibility of the project. Residents of the watershed area were interviewed to determine problem areas and to estimate losses from past floods. Data was collected, including flood water damage, erosion, sedimentation damage and the duration and intensity of costal water flows caused by sediment.

The investigation indicated that a project was needed and feasible. The application for assistance was submitted to the Secretary of Agriculture, U. S. Dept. of Agriculture by the Windward Oahu Soil and Water Conservation District and the City and County of Honolulu, the sponsoring local organizations. The application was approved by the Governor of Hawaii on June 2, 1965. The plan was developed in consultation with

federal, state and local agencies and others expressing interest. During work plan preparation, the U. S. Forestry Service and the State Division of Forestry were consulted to determine land treatment practices necessary on forest lands.

A public meeting attended by about 250 people, was held on February 7, 1969 to explain to the sponsors and interested individuals, the findings and recommended project measures to be installed. All those present were in favor of the project and agreed to procede with the project plan. However, two land owners whose property would be affected asked that since their land was high and dry, the park boundary and one road alignment should be altered. These alterations were made and the property owner satisfied.

Finally, an informal Field Review was held on June 20, 1969 at a public meeting to discuss the Kahalu'u watershed work plan. No objections were raised to any provisions of the project plan. The final work plan was then prepared and sent to Washington, D. C. on December 19, 1969. Various state and local agencies and interested parties were also sent copies of the work plan and invited to comment. Environmental issues raised by federal and state agencies were received in writing and are as follows:

The Dept. of Interior commented that the existing quality of water at the proposed lagoon site might not meet requirements of the State Public Health regulations for National Bathing Places. They recommended an evaluation of the bathing water quality and development of recommendations needed to rectify respective bathing water quality problems. Bathing is not a project of the plan. In regard to public recreational facilities, the Dept. recommended that the Soil Conservation Service co-ordinate the plans for the sanitary facilities with concerned state and local authorities prior to solicitation of bids and construction.

It was suggested that contract documents require periodic inspection of sedimentation and pollution abatement facilities and that provisions be incorporated into the operation and maintenance whereby needed improvements are made. Also, it is recommended that construction specifications require all contractors to adhere to guidelines for minimizing soil erosion and water and air pollution during construction. The Dept. stated that implimentation of the work plan will result in no significant fish or wildlife losses and that the lagoon will provide new opportunities for fishing. Also, that reduction in sedimentation resulting from land treatment practices and improved channels will benefit the marine fisheries in Kaneohe Bay. The Department offered no objections to the plan provided the above recommendations were considered. These recommendations were considered in the final watershed project plan.

The National Park Service, Western Region, U. S. Dept. of the Interior commented that the Kahalu'u fish pond and the six heiaus (religious temples) in the vicinity are important historically and and archeaologically. The fish pond was seriously damaged in the 1965 flood which lost a $100,000 crop of commercial fish and has since stood idle. With the installation of the project this pond can be repaired and operated with little risk of further damage. The project measures will not affect the six heiaus.

The Dept. of Health, Education and Welfare had no objections to the authorization of this project insofar as departmental interests and responsibilities are concerned. The Department's concern with this project is summarized by the Bureau of Water Hygiene of the environmental control administration.

The Bureau of Water Hygiene commented that this plan will provide incidental water hygiene and public health benefits since the reduction in flooding will offer greater protection against water main damage and possible contamination from flooding of cesspools. Also the proposed project, if properly maintained will benefit vector control. Improved drainage and clearing will reduce or eliminate a number of problems related to mosquitoes and certain other aquatic life. The Bureau recommended HEW concurrence in the proposed project.

The Division of Fish and Gam, Dept. of Land and Natural Resources, State of Hawaii commented that the lagoon will create a more desirable estuarine jabitat and will provide desirable live bait for the tuna industry.

The University of Hawaii Cooperative Extension Service, College of Tropical Agriculture commented that the plans for erosion control sound excellent. The plans require full cooperation by land-owners, which is sometimes a little difficult to obtain. They believe the plan is good and worthwhile although the recreation area may be too small.

Hawaii's Governor commented that the Kahalu'u community is susceptible to extensive flood damage and urgently needs the flood control improvements. The multi-purpose park and lagoon developments will certainly help to meet the increasing demands for recreational facilities imposed by our rapidly growing population.

9. Appendix A-Comparison of Benefits and Costs for Structural Measures From the Work Plan.

Table 6 from the Kahalu'u Watershed Work Plan as supplemented, is attached as Appendix A.

10. Appendix B - Project Map:

The project map is from the Kahalu'u Watershed work plan as supplimented is attached as Appendix B.

Approved by: (signed by Fred Houghton) Date: August 28, 1972
State Conservationist

(Note by H.H.) Answers to questions to Mr. Lum of the Soil Conservation Service, U. S. Dept. of Agriculture:

1. Who wrote the statement? Ans.: The Soil Conservation Planning Staff with the help of community leaders, the Office of Environmental Quality Control, Leonard Moffitt (Windward Citizens Planning Conference) and others.

2. What is the status of the statment at the present time (Nov. 13, 1972)? Ans.: It is at the Department of Agriculture, Washington, D. C.

3. Where is the area that will still be flood prone? Ans.: The area mauka and makai of Kamehameha Highway and Kaneohe side of the North Waihe'e Stream. If the North Waihe'e Stream is to be changed to stop flooding it will be the responsibility of the City and County to do the job.

4. Will parts of the stream be grassed over? Ans.: The plan at present (if money is available) is to put the streams underground in some areas and plant grass over them.

5. What will keep them from clogging up? Ans.: The debris basins, (hopefully).

Copy of flood plan map attached. Note: North Waihe'e construction has been eliminated.

HONOLULU

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

440 Alexander Young Building, Honolulu, Hawaii 96813

May 4, 1972

Miss Sophie Ann Aoki
President
Life of the Land
899 Waimanu Street
Honolulu, Hawaii 96813

Dear Miss Aoki:

This is in response to the request made in your letter dated April 21, 1972. You state that there are some inconsistencies in the information on the Kahaluu Flood Control Plan, however, you fail to identify the inconsistencies in your letter. In an effort to help you understand the procedures, Mr. Scott of my office contacted you and offered to discuss the aspect of the project with you and answer any questions which you might have. Since you failed to contact our office I was somewhat surprised to receive your letter which indicated you had questions regarding the project. My response to your request in the order submitted is as follows:

> Item 1 - The Kahaluu Watershed Project is a locally sponsored project initiated by local people. The Sponsors of the project, the Windward Oahu Soil and Water Conservation District, and the City and County of Honolulu, will be notified of your request that an informal public information meeting be held. We met with the Sponsors as well as the local people to discuss the plan many times during preparation of the work plan. These people are in the best position to know whether there is a need for an information meeting on the work plan proposals. Meetings which have been held in the past have been open to the public although major emphasis was given toward notifying people most directly affected of the meeting, that is, those who live or own property in the Kahaluu area.

Item 2 - Regarding your request that a public meeting be held in the Kaneohe area instead of Kahaluu - We believe that the meeting should be held at the convenience of the people most directly affected. With this in mind, Kahaluu seems like a more logical location for such a meeting. There are many people in the Kahaluu area which could be inconvenienced and not be able to attend a meeting located out of the immediate vicinity of where they live. The location of the meeting is again a decision that would be made by the local sponsoring organizations in conjunction with representatives of my office.

Item 3 - An Environmental Impact Statement is being prepared and normal procedures for responding to comments will be followed.

Logically, the Environmental Impact Statement should be prepared in conjunction with the plan. As indicated in previous correspondence, the Kahaluu Watershed Work Plan was completed and had been submitted to Washington prior to the enactment of Public Law 91190. Therefore, normal procedures could not be followed in this particular instance. As also indicated in previous correspondence, an Environmental Impact Statement is being prepared and will go through the normal review process.

If you have further questions regarding the project, please feel free to contact my office.

Sincerely yours,

Fred Haughton

Fred Haughton
State Conservationist

cc: Mayor Frank Fasi
City & County of Honolulu

Mr. Ralph Ajifu, Chairman
Windward Oahu SWCD

March 12, 1970

The following questions were answered by Mr. Lum of the U. S. Soil Conservation Serv. at a two hour discussion on March 11, 1970.

1. Reforestration Program: what kinds of trees and ground cover will be planted?

   So far as possible all plants will be of the type that will not drive out desirable plants already in the area. The area to be planted is not in the water shed zone, but makai of the dotted lines in the conservation area showed on Fig. 3. Under the laws of the state no unauthorized persons can enter the water shed area. Mr. Lum feels this area should be opened to hikers and limited picnicing.* He feels the reforestration area should be planted with varied types of trees such as monkeypod, kukui, Norfolk pine, etc. due to the fact that trees with wide spread branches help to disperse the rainfall more evenly. Apparently the Forestry Service will help in such a project but the impetus, some of the plants and the work entailed will have to come from land owners and valley residents.

   * In view of what has happened in such areas on the mainland as Yosemite, the Red Wood Parks, etc. and also due to the danger of forest fires, I do not agree with Mr. Lum about opening this area (watershed) for recreational purposes.

2. Are land treatment measures by property owners optional or mandatory

   Treatment will be optional with advice and technical assistance from the Forestry Service. This includes urban areas.

4. According to the Watershed Work Plan, croplands in the valley are valued at an average of .20¢ a sq. ft., or approx. $8,700 an acre. Gross value of truck crops per acre average between $10,000 and $20,000 a year. Using these figures, the average value of crops would be approx. $1,035,000. How was the figure of $77,256 (2½%) loss of crops in the 1965 flood reached?

   The figure of $77,256 was based on the loss of taro crops adjacent to river banks.

   How many acres are in cropland and are the words cropland and agricultural land used synonymously? Based on the land yielding cash returns, 23% of the land zoned as agricultural before March 1969. Some of the people who produce cash crops or other comestibles have full time jobs other than in agriculture. Croplands and agricultural lands are lumped together.

5. According to Fig. 3 most of the useable land in the valley will end up as urban. Do the people living and/or farming on this land own the land?

   Some of the land is leased some is owned. The land was zoned urban by the state over the objections of Mr. Harper and others. It has not yet been zoned urban by the city and county. The reason cited for the rezoning, according to Mr. Lum, was the future necessity for more housing in the valley.*

*I question what will happen to the small home owners and farmers

if the city and county zones it urban. On the same day I talked to Mr. Lum, I talked to one of the men at City Planning and he said it was possible that eventually this urban-zoned area could be divided up into 5,000 sq. ft. lots.

6. Where does pollution drain-off from cesspools, farms etc. go now and where will it go after the flood control plan is completed?

The rivers are polluted and will continue to be polluted and that is why the ponding area will not be used for swimming. Ahuimanu Homes has its own primary sewage plant but it is not used by other areas. When Kahaluu has sewers the Ahuimanu area will hook into them. There is no plan at present for a sewage treatment plant or sewers in the Valley."

*According to other sources it may be 15 to 20 years before sewers and sewage treatment come to the Valley. I presume this would depend on how much urban development takes place and if developers are required to put in sewers and sewage reduction plants.

7. How do debris basins and energy dissipating structures work and what will happen to the silt that is trapped?

Debris basins will be deep enough and wide enough to trap anything washed down the river and it will be up to the city and county to keep them cleaned out. The dissipating structures work by roiling or boiling the water slowing down the flow and also causing much silt to settle to the bottom.

8. What will keep the silty clay and silty loam along the shore of the bay from sliding back into the channel to be dredged to deep water?

Under the clay and loam is coral and it is expected that when the channel is dredged the flow of the water from the river will keep the channel clean. If it silts up, it will be necessary for the city and county to clean it out. The channel will not go to "deep water" but only out to the end of the tidal flats at low tide.

9. Of the total cost of the flood control project of $7,896,460, $177,700 is allocated to land cost rights for the recreation area. Other costs will bring the total cost of the recreational area to $661,320. The estimated annual cost for operation and maintenance is estimated at $61,000. In the plan it is stated that the number of tourists expected to use the facilities is estimated at 120,000 annually (maximum number allowable with proposed facilities.) Under projections for tourists visiting the north shore, the potential park visitors may increase ten-fold (necessitating increase in park facilities.) On Page 72 of the plan it says, "An additional 120,000 mainland visitors are annually expected to briefly stop at the park development during bus tours of the island. The value of this visitor-day was considered to be $.25". I asked Mr. Lum what this figure meant and was told that it was based on the cost of providing restroom facilities for the visitors who might wish to stop there--that public restrooms were needed between Honolulu and the Hauula-Swanzy, etc. area.

Perhaps this may seem facetious, but in view of the probability we will be without sewers and treatment plants for a long time, I can't

help wondering if one of our goals should be to provide restroom facilities for tourists passing through to the North Shore.

Mr. Lum told me that what he wished could have been done was to condem and buy the land in the flood prone area and set it askde as an ecological wildlife area but that it was not possible because the value of the land would have been $20,000,000. As stated in the plan, the agricultural or cropland was valued at .20¢ a square foot and I am wondering if the flood-prone area could have been this valueable before it was urban zoned by the state. Is there a possibility that we can prevent all this land from being urbanized? According to the City Planning Office, organizations, such as Hui Ko'olau) can be put on a list of organizations, clubs, etc. that will receive advance notice of proposed zone changes. Perhaps Hui Ko'olau is already on this list?

I asked Mr. Lum also if an ecological study had been made of the valley and the plan while the plans were being formulated. He said the Forestry Div. , Fish and Wildlife Division and the Soil Conservation Div. had tried to take the ecological effects into account but apparently no separate study of this aspect was done.

Two questions I did not ask because of lack of time were:

1. The plan states that 233 acres in the area are zoned for resort use with approx. 45 acres of this consisting of the fishpond. The other 178 acres do not show on the plan. Where are they?

2. What will be the depth of the lined channels and will it be necessary for safety to fence them in?

Mr. Lum said he hoped the people of Kahalu'u would urge the city and county to plant trees and other plants along the areas where the channels will be for aesthetic reasons.

Helen Hopkins

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
440 Alexander Young Building, Honolulu, Hawaii 96813

March 28, 1972

Miss Sophie Ann Aoki
President, Life of the Land
899 Waimanu Street
Honolulu, Hawaii 96813

Dear Miss Aoki:

In response to your March 21, 1972 letter requesting information on the Kahaluu watershed, I am enclosing a copy of a news release, articles from the Honolulu Advertiser and Star-Bulletin, and a letter which was sent to property owners and residents of the Kahaluu watershed concerning the final public meeting prior to the work plan being submitted to Congress. Although the project predates PL 91-190, residents of the watershed were included in the planning process.

The Kahaluu Flood Control Committee, composed of residents of the Kahaluu watershed spearheaded early planning efforts on this project. The Windward Oahu Soil and Water Conservation District and City and County of Honolulu are the sponsors of the project. The Soil Conservation Service provided technical assistance in preparation of the plans.

As you can see from the news coverage and letter addressed to residents of the area, the Flood Control Committee attempted to get the information to the people. I am sure that they would be happy to provide you with additional information on the public meeting or community input in the plan.

Please do not hesitate to contact me if there are other questions concerning the Kahaluu watershed.

Yours truly,

Fred Haughton

Fred Haughton
State Conservationist

cc: Joe Harper
Enclosures (4)

H. S. A.

Residents to be briefed on Kahaluu flood plans

Kahaluu residents interested in the flood control plan for the valley can hear about it at a meeting scheduled for Friday night at 7:30 at the Kahaluu Elementary School.

Joe C. Harper, chairman of the Kahaluu Flood Control Committee, said the $5 million plan includes a 20-acre lagoon to be built behind Hygenic Store.

Harper said a 22-acre park would surround the multipurpose lagoon which would be mauka of Kamehameha Highway.

The lagoon itself would occupy those low lands where Ahuimanu Stream now floods following sudden rains. This happened last Thursday.

The flood control project was started after the 1965 disaster at Kahaluu when a home, swept off its foundations, floated more than a mile downstream before stopping next to Hygenic Store.

Assistance was received from the Soil Conservation Service in planning the flood control project.

STRAT: FYI

U. S. Dept. of Agriculture
Soil Conservation Service

Contact: Whiting (546-5792)

FOR IMMEDIATE RELEASE:

June 18, 1969

SENT TO: UPI, AP, 5 TV Stations & 6 Radio Stations

AN INFORMAL PUBLIC MEETING WILL BE HELD FRIDAY EVENING TO REVIEW PLANS FOR THE PROPOSED KAHALUU WATERSHED PROJECT. THE MEETING WILL BEGIN AT 7 P.M. AT THE KAHALUU ELEMENTARY SCHOOL.

TENTATIVE PLANS CALL FOR EFFECTIVE TREATMENT OF LAND IN THE AREA, AND FOR CONSTRUCTION OF FLOOD PROTECTION DEVICES AND RECREATION FACILITIES NEAR THE OLD HYGIENIC STORE AT AHUIMANU ROAD AND KAM HIGHWAY INTERSECTION.

PLANS FOR THE ESTIMATED $7.9-MILLION PROJECT WERE PREPARED BY THE WINDWARD OAHU SOIL AND WATER CONSERVATION DISTRICT AND THE CITY AND COUNTY OF HONOLULU. THE USDA SOIL CONSERVATION SERVICE PROVIDED TECHNICAL HELP IN PREPARATION OF THE PLANS.

THE MEETING WILL BE THE FINAL PUBLIC REVIEW BEFORE THE PROJECT WORK PLAN IS REVISED AND SENT TO CONGRESS WITH A REQUEST FOR $4.8-MILLION OF FEDERAL FUNDS.

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MORE NEWS

Park Plans for Kahaluu

By HAROLD HOSTETLER
Advertiser Planning Writer

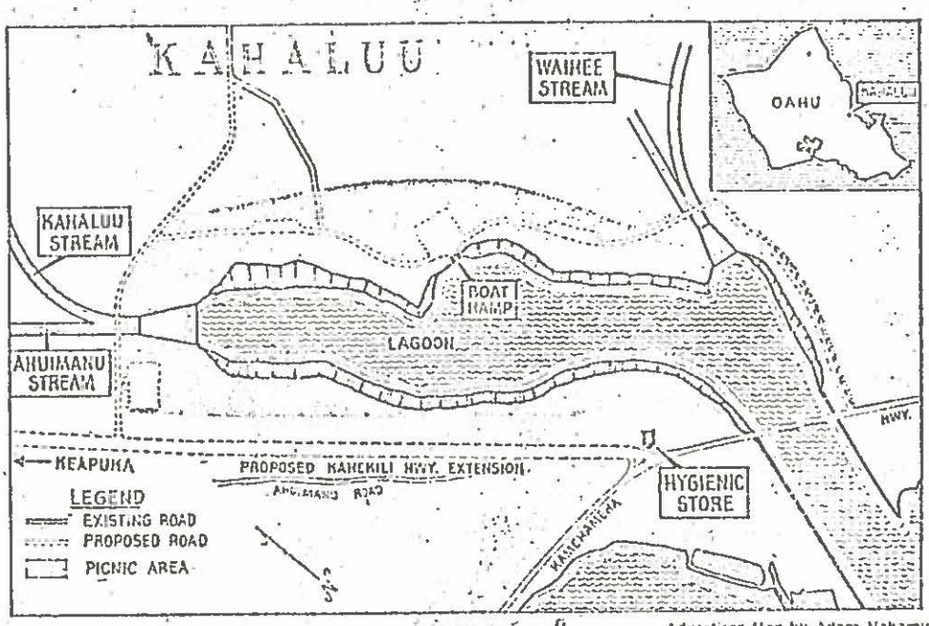
Imaginative flood-control plans are being drawn up that may give Kahaluu a beautiful park and boating area right behind the familiar old Hygienic Store.

The plans are being developed by the U.S. Soil Conservation Service, the City Department of Parks and Recreation, and the Windward Oahu Soil and Water Conservation District.

Like Keapuka, where a number of homes were destroyed by flood waters over the weekend, Kahaluu has borne the brunt of a number of damaging floods. The low-lying land surrounding the Hygienic Store was again under water last weekend, and a number of properties sustained severe damage.

Ever since a disastrous flood in 1965 Kahaluu residents have been agitating for some action on the part of the City, State and Federal governments to protect them from future inundations.

According to Francis Lum, watershed planning leader for the local Soil Conservation Service office, plans have been worked up and will be presented at a public meeting of the Kahaluu Flood Control Committee at 7:30 p.m. tomorrow at Kahaluu Elementary School.



Advertiser Map by Adam Nakamura

As shown on map, new park and lagoon would be just behind the old Hygienic Store at Ahuimanu Road and Kam Highway intersection.

Lum said the flood-control and park project will be a joint City-Federal job that will cost some $6.9 million over a five-year period. The Federal government will pay $4.8 million of that, including the entire cost for flood control, plus one half the cost of recreation facilities.

It will be up to the City to buy the land.

Lum said the Kahaluu project is a unique one in that it is the first time he knows of in which a public park was included in the flood-control engineering. On the Mainland, parks have been developed around dams and reservoirs, however.

"We hope to have a workable plan for congressional review this summer," Lum said. "If we can get the necessary approvals by ghe end of this year, we hope to go ahead with construction soon afterwards. There will be a five-year construction period."

Joe C. Harper, president of the Kahaluu Flood Control Committee, which was formed following the 1965 floods, said he is enthusiastic over the proposed plans, which call for a 28-acre multiple purpose lagoon encircled by a 22-acre park with recreational facilities.

Harper said he has invited the Governor and the Mayor to the meeting, as well as many other top government leaders.

"We're trying to use a positive approach to flood control," Harper said. "Our hope is to reach a final agreement on the plans and to support them as a community."

Harper said he felt the plans that will be presented tomorrow night will "preserve the valley and give us the flood protection that we must have."

Zoning To Prevent Floods

One of the provisions of the City's new Comprehensive Zoning Code allows the City Council to establish "Flood Hazard Districts."

This would let the Council restrict development "to protect life and property and to reduce public costs for flood control and rescue and relief efforts."

Once the Council determines that an area constitutes a flood hazard district, only the following uses would be permitted within the district:

- Public and private recreational facilities.
- Carnivals and other "transient" amusement activities.
- Agricultural uses, except pig farms.
- Open-space uses, such as parking lots.
- Mining, quarrying and other similar commercial operations.
- Refuse dumps, sanitary landfills and the like.
- Public improvements, such as dams.
- Accessory agricultural uses, such as dwellings for owners or employes (but no more than one unit for each two acres), and roadside stands for sale of agricultural products.

KAHALUU FLOOD CONTROL COMMITTEE
47-121 Uakoko Place
Kaneohe, Hawaii 96744

27 January 1969

SUBJECT: Flood Control Informational Meeting

TO: Property Owners and Residents
Kahaluu Watershed

It has now been approximately 3½ years since the disastrous floods of 1965 caused concerned community leaders to meet and take the first steps toward a flood control program for Kahaluu.

After a number of meetings a decision was made to apply for assistance to the Soil Conservation Service under Public Law 566. The Windward Oahu Soil and Water Conservation District and the City and County of Honolulu became the official sponsors of the Kahaluu Watershed Flood Control Project and filed an official application for aid. The Soil Conservation Service favorably received the request, and planning got underway.

During the intervening months the Soil Conservation Service Staff, working under the guidance of the special Kahaluu Committee and in consultation with the sponsors and public agencies, has completed the preparation of a work plan for the project.

The Kahaluu Committee has received the plan and approved it as embodying the concepts and features that seem to be in the long term best interest of the Valley.

The time has come for the committee to present this plan to all the people of the Kahaluu Watershed Area. For this purpose a general meeting is being planned for Friday evening, February 7, 1969 at 7:30 PM. The meeting will be at Kahaluu Elementary School and all residents and property owners of the valley are being invited.

This will be an information type of meeting to explain the features of the plan. The purpose of this gathering is to provide everyone with a full understanding of how the proposed plan will affect each property owner and resident and show what the completion of the plan will mean to the Kahaluu Community as a whole.

This meeting will be followed later by an official public hearing under the sponsorship of the Windward Oahu Soil and Water Conservation District.

The meeting at Kahaluu Elementary School on February 7, 1969 is an important step in obtaining flood control for the Valley. The plans to be discussed involve a possible expenditure of five million dollars in public funds and will be a critically important factor in the future of Kahaluu.

You are urged to attend in order that you will be able to make an informed judgment on the proposed plan.

Joe C. Harper

JOE C. HARPER
Chairman
Kahaluu Flood Control Committee

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D. C.

May 12, 1971

State Conservationist
Soil Conservation Service
Honolulu

As you may know, we do not plan to prepare E. S. for projects which were approved before Jan. 1, 1970, the date the National Environmental Policy Act was signed by the President. The approval date is the date the work plan agreement was signed by the administrator (or by the State Conservationist for Administratively approved projects). However, several projects have been approved after Jan. 1 without an E. S. being completed. We need to take steps to correct this. Please prepare a draft for the Kanalu'u Watershed Project. * The attached interium quidelines are for your use. We suggest you draft the "Consultation" section. This is normally done in this office after the inter-agency review. You should discuss the consultation and coordination with other agencies (Federal, State and local), on environmental matters throughout development and revision of the plan, not just their comments on the final plan. We are also attaching a copy of a recently prepared E. S. for another watershed which will illustrate the type of statement needed.

Signed: Norman Berg, Administrator

* Underlinging added.

JECT: KAHALU'U WATERSHED FLOOD CONTROL PLAN Notes by H. C. Hopkins

On Wednesday, March 8, 1972 I went to the office of the U. S. Agric. Soil Conservation Serv. and asked Mr. Hess to show me a copy of the public hearing notice on the flood control plan. He showed me a copy of a letter dated 1/27/69 to property owners and residents of the Kahalu'u watershed, signed by Joe C. Harper, Chairman Kahalu'u Flood Control Committee; also two photographs of signs regarding the meeting which had been posted on trees. There was no copy of a public hearing notice to show me at that time. Since then I have seen a copy of an informal public meeting to be held at the Kahalu'u Elementary School. It was a xeroxed copy on which had been typed: "Sent to: UPI, AP, 5 TV Stations & 6 Radio Stations". I told Mr. Hess that this could not be considered a bonafide public hearing notice and asked if I could see a copy of the Environmental Statement on the project.

With the help of Mr. Whiting, the statement was finally located. It was a "draft" copy and Mr. Whiting said the statement had been sent to Washington about 8 or 9 months ago. I was left to read the statement and copied some of it (it was 11 pages long) until I began to realize that it had been taken almost verbatim from the watershed work plan itself. Attached is a copy of what I copied. Also I read and copied a letter attached to the statement (included here).

Approximately a week later, I went to the S.C.S. and talked at some length with Mr. Lum. He told me that the North Waihe'e area and the park around the proposed pond would not be funded by the federal government. We talked about various aspects of the flood control project and when I told him of my concern for the Hawaiians who live on their Kuleana lands in the area and of the low-income people living in the valley who would be forced to leave because of the esculation in land values if the flood control project is developed. Mr. Lum assured me that the government was prepared to compensate the Hawaiians and that other places would be found for them. I told him that these people did not want to be relocated---that the land had been handed down to them from their Hawaiian chiefs and that their families had lived there for generations; also that even if they wanted to move, suitable land such as they now have could not be found and that the government could not begin to compensate them for what they have now, monetarily, culturally or environmentally. I was not able to make Mr. Lum understand, apparently. He said a new E.S. will be written and I asked him to see that the people in the area have the opportunity to participate in this statement.

Under the PL 91-190 all written and verbal questions are supposed to be answered and the questions and answers included in the E.S. I went away feeling that Mr. Lum not only did not understand my concerns but that he felt it was not very important that public hearings be held and citizen in-put be received on the E.S. This may be because that office has had little or no experience regarding impact statements and had not been well briefed by Washington.

After talking to Mr. Lum, I called Mr. Ramon Durand, Deputy Director C. & C. Parks and Recreation to ask about the changes in the flood plan. He did not know about them but said he would check on this. Also, I called Mr. Gryde of the Windward Soil Conservation Service and he did not know of the changes either. Though he was stationed in Hilo at the time the plans were being prepared and reviewed, he assured me that all concerned had been involved in the planning procedures. When I talked to Dr. Miura (who lives in Kahalu'u) of the Office of Environmental Quality Control and later with Dr. Marland of the same office, neither of them knew of the changes,

did they know an E.S. had been sent to Washington.

Mr. Gryde said that he felt the state would pay for the North Waihe'e portion of the plan and that either the state or the city would pick up the tab for the park. However, Mr. Durand said that thought the city would pay the cost of the park he felt that the North Waihe'e area would not be be funded, or at least not for a long time. Mr. Durand suggested that a informational meeting would be a good place to start with a public hearing later.

I have been interested in the flood program since February 5, 1969 when an informational meeting was held at Castle Highschool. In May 1969 Hui Ko'olau was formed and its first priority was the flood plan. A temporary community association committee met on June 13 and the first member ship meeting was held on Jun 27, 1969. My husband and I became charter members and when the November 24th Hui Ko'olau bulletin came out listing a dozen committees that had been established and asking for volunteers, I noticed there was no committee to cover ecology in sofar as pollution is concerned. I volunteered several times to either set up such a committ or to work on pollution problems with one of the committees but received no encouragement.

I asked for and received a copy of the Watershed Work Plan and after studying it found that the inconsistencies in it bothered me, and when attending a Hui Ko'olau meeting in January I asked if everyone present had had an opportunity to study the plan. The reaction from some of the people at the meeting was quite unexpected. Though I had lived in Hawaii for 18 years I was treated to the usual derogatory remarks about "haoles". I assumed that if the majority of the people in the valley wanted the flood control program as it was planned, I should not try to persuade them to take a closer look at it. (I was not aware until more than two years later that not ALL the residents in the area were pleased with the plan and that though some of those opposed were Hawaiians, they had gotten the same reaction I had.)

On March 12, 1970 I had a long conversation with Mr. Lum of the Soil Conservation Service and some of the questions I asked and the answer are attached, also copies of some correspondence I had with members of Congress. Sometime during the summer of 1970 an informational meeting regarding the proposed Keapuka Flood Dam was held at Castle Highschool and it was my impression at that time that this project had priority over the Kahalu'o flood control. Keapuka was to be funded through the U. S. Army Corps of Engineers. Numerous articles have appeared in the newspaper over a period of the last 15 months about the progress of the Keapuka flood dam sponsored by Senators Fong and Inouye. Then, with no previous publicity an article appeared stating that the Kahalu'u plan had come out of the House Agricultural sub-committee and was approved. In early March another article appeared stateng that the Senate Agricultural Committee had approved the project almost two years ago and that approval by the full House Committee was expected. The House sub-committee had approved on February 28 and the bill was steered through by Rep. Matsunaga It was approved by the full House Committee on March 10 in a bill "to provide for environmental improvement in rural America" tacked on to flood protection, water quality management, land utilization and industria water supply Federal funds program "in this particular case". The origina law (for the funds) was under land rights for reconstruction of public recreation. It was sponsored in the House by Rep. Robert R. Poage and Senator Eugene Talmage in the Senate. Other sponsors were added about four times (the Congressional Register does not list the other sponsors.)

Some of the inconsistencies I find regarding this flood program are as follows:

1. According to the Kalama, Sept. 1970, plans were being made for the Kahalu'u Flood program as far back as 1965---four years before Hui Ko'olau was formed. The draft of the E.S. states that the Windward Oahu Soil and WaterConservation District has 26 cooperators at the watershed and that the cooperators, including the Dept. of Land and Natural Resources, comprise 58% of the total water shed area. It also states: "The plans require full cooperation of the land owners which is sometimes a little difficult to obtain." On checking the tax key books, it becomes obvious that the owners of large areas of land are the Magoon family, Hiram Fong and family, Sing Chong Ltd., Ocean View Cemetary and Market, Kaneohe Development Corp., and on the waterfront (including the tidal flats), Hawaiian Land Co.-Alexander and Baldwin. I would like to know who the "26 cooperators" are.

2. In answer to a question of Mr. Whiting on the number of homes actually affected by floods, I was told 22 to 25 plus two souvenier shops and a couple of small businesses. The E.S. states that 100 residences are affected and the Watershed plan says 89 residences and 35 farms. Much emphasis is placed on the loss of life due to floods. There is no record of loss of life except for one man who left his home to resuce a cow, fell into a ditch and was apparently swept out into the bay.

3. In June 1970 Rep. Matsunaga was informed that the House Agriculture Subcommittee on Conservation and Credit had not given favorable consideration to the Kahalu'u flood control plan because it is primarily non-agricultural. The sub-committee believed that the developers of residentia lots would benefit most from the project and that the project is too big (more than the total cost of the five projects the sub-committee approved on June 3 (1970). In this regard the sub-committee considered a cost figure of $2 million as being reasonable for watershed projects.

4. Though the stated goals of Hui Ko'olau are, in part: "a predominance of single story dwellings and commercial buildings in the area; preservation of the fish ponds; keep industrial development to a minimum and located away from main thoroughfares; unobstructed vistas of the bay from the highway and preserving and maintaining a Polynesian theme and atmosphere throughout the area", most of the land on both sides of the highway, the fishpond and Wailau Point are zoned resort, industrial or commercial. Unless this land can be downgraded, which seems unlikely in view of past decisions, the land designations and the aims of Hui Ko'olau do not seem compatible. There are a number of small plots of Kuleana lands in the flood control area that would be wiped out under the present plans and the only Polynesian atmosphere would be artificial and geared toward tourism.

5. Most of the holdings of large land owners would be left intact and the flood plan (lagoon, park, sewage treatment plant, new roads, etc.) would obviously cause a rise in value of these lands and all adjacent lands Value of the land has now risen to $1.10 a sq. ft. and if it goes any higher, low income families cannot qualify for low cost housing.

6. When Hui Ko'olau was formed, it had no constitution and neighborhood representatives were appointed---not elected. A constitution has been written (though not yet voted on) but though there were objections from some of the members, the neighborhood representatives under this constitution are still appointed.

7. The Watershed Work Plan states on pg. 33 that total land rights cost is estimated at $1,961,180. However, on pg. A-2 the cost of reimbursing land owners (for about 50 acres) is listed as $954,020 which figures out at about $19,085 per acre (or about .44¢ per sq. ft. in an area where the land values, due in part to nearby resort and commercial zoned land, are now at $1.10 per sq. ft. or $48,000 an acre. The balance of the $1,961,180 would go for the cost of relocation of two houses ($10,000), "all other improvements", legal fees, survey costs, flowage easements and other.

8. The E.S. statement says the Kahalu'u fishpond was severely damaged in the 1965 flood with the loss of a $100,000 crop of commercial fish and has since stood idle. The Watershed Plan says the fishpond was damaged in the 1965 flood and the area is no being planned for resort use. Yet, the pond was resort zoned in 1964. The pond was and is a spawning ground for bait fish, but the fish were not being commercially raised in 1965. The fish come and go with the tide. The owners have and are still trying to fill in the pond. They have had fill dumped into it without permission and only the alertness of nearby residents has, so far, helped to protect it. The owners wish to build a yacht harbor, a shopping center, a hotel and a jetty.

There are so many other inconsistencies that they are too numerous to list here, but I would like to point out that though a letter from Mr. Fred Haughton of the Soil Conservation Service states that the flood project predates PL 91-190, the letter of May 12, 1972 from the U. S. Dept. of Agriculture makes it quite clear that the project does fall under the NEPA of Jan. 1, 1970. The Watershed Work Plan was signed by the Chairman and Secretary of the Windward Oahu Soil and Water Conservation District on June 23, 1969 and by the Mayor and City Clerk of Honolūlu on July 15 and July 16, 1969, respectively, it was not signed by the Soil Conservation Service.

The problem here as I see it in view of the past history of the area, if that the flood control plan is part of a land development scheme that will cost the taxpayers at least $6 million dollars. Much emphasis is placed on protection of the bay from silting, which is a worthwhile and necessary thing. However, the Hawaiians say they had no silting problems to speak of, nor such severe flooding in the past because they kept the streams cleaned and cleared and used a system of diking. It is obvious to anyone who has lived in Kahalu'u that in the past seven years the silting has increased tremendously because of the lack of control over the land use practices of the developers. Nothing is being done to stop this--in fact, it grows worse month by month. We must question our value system when we allow massive development of housing for upper middle class people that is destroying the beauty of the land and killing the bay---the filling in of estuaries (which are so important to the ecological chain as are the reefs and swamps since the are the most important links in the food chain) and at the same time are pushing the indigenous residents and the poor out and paying taxes on massive public works projects that benefit the already super-rich.

FOLLOWING IS PART OF THE 11-PAGE DRAFT E.S. OF THE U. S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE SENT TO WASHINGTON 8 or 9 MONTHS AGO. (THE COPY IS NOT COMPLETE DUE TO LACK OF TIME AND ALSO BECAUSE I BEGAN TO REALIZE THAT IT HAD ALL BEEN TAKEN OUR OF THE WATERSHED WORK PLAN).

"U. S. Dept. of Agriculture, Soil Conservation Service, USDA E.S. prepared in accordance with Sec. 102(2) (C) PL 91-190, Date April 1971.

"EFFECT OF A WATERSHED PROJECT FOR KAHALU'U WATERSHED, OAHU. AUTHORITY FOR PROJECT: Public Law 566, 83rd Congress, 68 Stat. 6669 Amended.

"Sponsoring local organizations: Windward Soil and Water Conservation District, City and County of Honolulu.

"The Kahalu'u watershed includes 4,420 acres on the Windward N. E. side of the island of Oahu. The present land use pattern is 52% forest land 20% grass land, 23% agricultural and 5% business and residential. Approximately 69 farms in the watershed, average about 6 acres in size. The Windward Oahu Soil and Water Conservation District has 26 cooperators at the watershed. The District has a memo. of understanding with the Dept. of Land and Natural Resources (DOWALD) to provide technical assistance in the forest land. The cooperators, including DOWALD comprise 58% of the total water shed area. About 12% of the needed conservation measures have been installed in the watershed.

"Fishnng in the watershed is limited. Some fish are caught from banks of narrow streams near where the outlet into Kaneohe Bay is. Various specie of crab are also netted along the streams. Kaneohe Bay, which received runoff from watershed is a haven for small fish and crab. Wild life habitat is low-value because of the absence of wild life.

"The threat of damaging floods is a serious problem in the watershed: 21 floods have occurred in the 35 year period from 1926 to 1971. Agricultural crops, residences, commercial and industrial properties and roads and beaches have been damaged by high-velocity flood flows which caused erosion and sediment disposition throughout the flood plain.

"Erosion and sedimnnt damage to the principle crops in the watershed occurs with every storm. Flooding also represents a constant threat to life as evidenced by the loss of life in past floods. Water-based recreation facilities in the area are not adequate to meet the needs of the people. Family type recreation facilities are needed in the area. The Kahalu'u community is now served by a small neighborhood school-park comples which is limited in size and unable to provide a balanced recreational program. The population has more than doubled in the last 10 years and continues to grow, adding to the need for recreation facilities. The plan provides extensive application of soil and conservation practices to stabilize and improve the land. Emphasis will be on accelerating installation of land treatment measures on man-made erosion scars to permit maximum efficiency in the operation of the structural measures and reduce unsightly blemishes on the country-side.

"places of historical or archeological value are not known to be located in the project construction area, although there are some reported in the watershed. Land treatment will stabilize and improve lands for present and future needs. These practices will help farm operators obtain optimum land use land production efficiency. Sediment sources will receive intensive treatment to reduce erosion. Sediment damages will be minimized. Land treatment and structural measures will reduce the quantity of sediment entering Kaneohe Bay. The project wilo reduce the estimated annual flood damages from $196,820 to $970.

...e flood control will provide a 100-year frequency level of flood ...tion to about 100 residences and businesses and 35 farms on about ...acres of flood plain. Kahalu'u has been declared an ecological model ... Oahu. Orderly planning of the area is dependent on the control of ...looding. The project will provide planned green space from ocean to mountains. It will provide recreation for residents and tourists visiting North Shore resort areas. The Honolulu Div. of Parks and Recreation estimates it will draw 95,000 visitor days annually from the resident population. (Here some of the impact statement was skipped for reasons explained at the top of page 1).

"Adverse Environmental effects: It will remove about 36 acres from grass production. Alternatives: Restrict further development but flood remaining open areas could be used for pasture and other agriculture perhaps on a risk basis. Cost of project saved. Land provides open space although it is doubtful if the lands would be properly maintained. Residents and taxpayers continue to sustain annual loses. The highway circling this part of the island would be impassable periodically. Sediment would continue to pollute Kaneohe Bay. Another alternative: eliminate the lagoon and park complex and provide flood water channel to the bay. Land use practices alone will not solve flooding but would reduce sediment that enters the bay. A combination of land treatment with structural measures is needed to reduce sedimentation to an acceptable level.

"Net monetary benefits if flood plan not implemented estimated at $100,640 annually. Relationship between long-term uses of man's environment and maintenance and enhancement of long term productivity: Protection for present and planned future use of the land: 16 acres committed to lined channels and debris basins and 50 acres to park and lagoon.

"Prior to preperation of final plan an' informal field review was held at which time those interested were invited to present their views and recommendations in writing or orally. It was recommended that Soil Conservation Service co-ordinate plans for sanitary facilities with concerned state and local authorities prior to selection of bids for construction.

"The National Park Service, Wwestern Region, U. S. Dept. of Interior commented that the Kahalu'u fishpond and six heiaus in the vacinity are important historically and archeologically. The fishpond was seriously damaged in the 1965 flood with the loss of a $100,000 crop of commercial fish and has since stood idle. The project measures will not affect the heiaus.

"The plans require full cooperation by the land owners which is sometimes a little difficult to obtain. They feel the planned recreation area may be too small. The Division of Fish and Game, Dept. of Land and Natural Resources, State of Hawaii commented that the lagoon will create a more desirable etuarine habitat and will provide indespensable live bait for the tuna industry."

ATTACHED TO THE ENVIRONMENTAL IMPACT STATEMENT WAS THE FOLLOWING LETTER (COPIED).

KAHALUU CARPENTERS' CLASS WAS BIG SUCCESS

"We are very pleased to report the results of our Carpenters' Training Class, started March 16 and ended May 8, 1970," says Randy Kalahiki, Program Director of KEY Center, 47-536 Kam Hwy., Kahaluu. Special thanks for assisting in this program go to Mr. Robert Knight, Executive Director for the Hawaii Carpenters' Apprenticeship Program, and Mr. Perry Knight and Mr. Carl Levey, instructors for this class.

As a result of donations of building materials, lumber, glass and window frames, the apprenticeship class built a room as an extension to the back of the building which is now used as part of the KEY offices and ultimately will be used as a class room.

A report of the present job status of some of those who took this course is as follows:

Edward M. Cordeiro, working for Hawaiian Dredging Co.

Gary G. Frasco, working for Mark Construction Co.

Melvin M. Igi, drafted into the Army two weeks before he would have completed course. He can continue with credit when he returns.

Raymond T. Ikeda, working for Harano Bros.

Harry I. Kogachi, working for Mark Construction Co.

Zacharias M. Lorenzo, working for Hawaiian Dredging.

Glenn J. Mancinon, working for Murchison Construction Co.

Richard W. Miller, working for E. E. Black Construction.

Danny Nethercott, working for Reed and Martin.

Lawrence Pahia, completed course. On sick leave. Will start to work soon as able.

Roy T. Rodrigues, enrolled in Job Corps.

Dexter L. Vasquez, working for Mark Construction Co.

Peter A. Watson, working for Hawaiian Dredging.

Edmond P. K. Renaud, working for Murchison Construction Co.

Hui Ko'olau Quarterly Meetings

All regular quarterly meetings of Hui Ko'olau will be held at Kahaluu Elementary School and will begin promptly at 7:30 p.m.

Although neighborhood representatives should make a special effort to attend or arrange for a substitute, all residents are invited to attend.

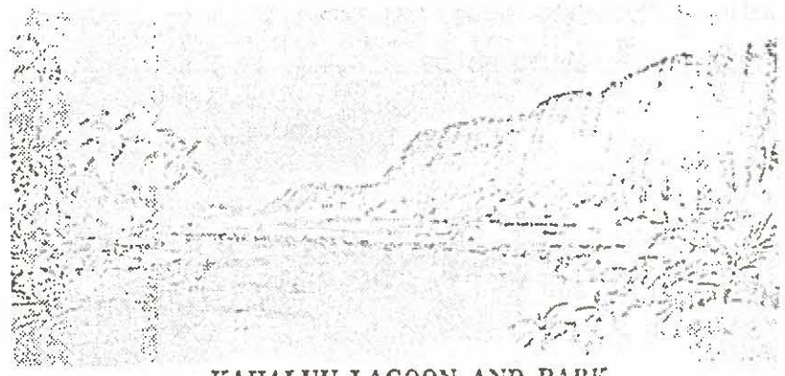
Please mark the following

SUMMER PROGRAM FOR TINY TOTS

by Merl Mattern

A program of Summer Fun was started August 3, 1970, under the sponsorship of the Kahaluu Community Action Program Council, Inc. for the community children, ages 3 to 5. Funding for this program was receiver from two of the Windward foundations and was earmarked to serve those children in the community who would not be served by any other program.

Planning the Tiny Tots Summer Program were: Johanna Tsuha, Harriet Kaawa, Edmund Kaawa, Wanda Kane, Thelma Wong, Carol Murakawa, Charlotte Kaili, Violet Van Epps, Ann



KAHALUU LAGOON AND PARK

Flood Control Plan Endangered

(Continued from Page 1)

requesting his continuing assistance in obtaining final approval of the Kahaluu Project.

Similar letters have been sent to our other congressmen who have all worked consistently to get Federal approval and funding for flood control at Kahaluu.

We want to appeal to all residents and community organizations in Hui Ko'olau as well as public officials and friends in the wider community to assist our congressmen in securing final approval of our flood control request by writing to them expressing the urgency and validity of our need and requesting an early favorable reconsideration by the House Agriculture Committee.

To give everyone as full an understanding as possible of the critical situation confronting the community and the official position we are taking, I am requesting that this first issue of Ka Lama print in full the exchange of correspondence that has taken place recently on this matter." (Editor's note: The letters will be found on page 4.)

A NEWSPAPER IS BORN

(Continued from Page 1)

by funds appropriated to the KEY Board under provisions of Act 299 for a community paper and from funds raised through advertising.

5. The name chosen is KA LAMA — "The Voice" — and issues will be published and mailed monthly. Anyone living in the Hui Ko'olau area who is not on the original mailing list may be included in later mailings by calling Anita Baldwin at 239-7217 and leaving name and address.

business establishments and the printing is done by the Kahaluu Printing Co., owned and operated by Ted Adameck. We are particularly proud of Ka Lama's attractive masthead, depicting a familiar area of the majestic Ko'olaus and Chinaman's Hat. Our thanks to Kahaluu artist, Mr. Kenneth B. Shutt, for contributing his time and talent in creating this outstanding work.

RECOGNITION

There are an increasing num-

Quarterly Meetings

All regular quarterly meetings of Hui Ko'olau will be held at Kahaluu Elementary School and will begin promptly at 7:30 p.m.

Although neighborhood representatives should make a special effort to attend or arrange for a substitute, all residents are invited to attend.

Please mark the following meeting dates on your calendar and show your interest in your community by attending.

September 11, November 17, February 26, May 21 (Annual Meeting) and June 11—second Annual Luau at Ulu Mau Village.

Agenda for the September 11 meeting: Hui Ko'olau Objectives for 1970-1971; Progress Reports on Housing, Training Center, Flood Control, Community Newspaper; Kaneohe Bay Improvements, Rep. Ernest D. Heen; A Community College for Kahaluu?. Dr. Nick Rock.

WANTED:

Developers — Any developer who would be interested in working with the community in preparing low and moderate income housing plans on selected sites should call the Ka Lama office at 239-7217 or the Hui Ko'olau office at 239-8821.

gram Council, Inc. for the community children, ages 3 to 5. Funding for this program was receiver from two of the Windward foundations and was earmarked to serve those children in the community who would not be served by any other program.

Planning the Tiny Tots Summer Program were: Johanna Tsuha, Harriet Kaawa, Edmund Kaawa, Wanda Kane, Thelma Wong, Carol Murakawa, Charlotte Kaili, Violet Van Epps, Ann Kalahiki, Randy Kalahiki, and Merl W. Mattern.

The program will be conducted from 9 a.m. to 2 p.m., Monday through Friday at the Kahaluu Elementary School under the direction of Wanda Kane. Judy Blue and Rose Mossman were hired by the committee as assistant teachers while the City and County of Honolulu has assigned two N.Y.C. enrollees to act as teachers' aides. Also assisting in the daily activities designed to teach the participants how to utilize free time; how to work within the group; and will endeavor to cultivate an interest in those things around them. Excursions each week are planned for the participants.

Although registration at this period of time is closed, community residents, along with their children, are welcome to drop by and observe.

KEY Board under provisions of Act 299 for a community paper and from funds raised through advertising.

5. The name chosen is KA LAMA — "The Voice" — and issues will be published and mailed monthly. Anyone living in the Hui Ko'olau area who is not on the original mailing list may be included in later mailings by calling Anita Baldwin at 239-7217 and leaving name and address.

It is intended that Ka Lama will be truly a local community newspaper with news and features of interest to everyone.

Until the Editorial Board can be organized and brought together, we suggest that each community organization select someone to serve as a reporter of news and each neighborhood can look to its Hui Ko'olau representative to serve as a channel of news for Ka Lama.

Until an editor is chosen by the Board, Anita Baldwin, Secretary of the KEY Board Office at the old Lau residence, will serve in this capacity. All news should be forwarded to her before the 10th of each month.

The community can be proud that Ka Lama is the product almost entirely of resources within the boundaries of Hui Ko'olau. The paper is financed mainly from contributions made by local

[illegible] Co., owned and operated by Ted Adameck. We are particularly proud of Ka Lama's attractive masthead, depicting a familiar area of the majestic Ko'olaus and Chinaman's Hat. Our thanks to Kahaluu artist, Mr. Kenneth B. Shutt, for contributing his time and talent in creating this outstanding work.

RECOGNITION

There are an increasing number of public spirited people and organizations in the Hui Ko'olau area that give their time and special abilities to make this a better place to live and support worthwhile programs.

The community is grateful to the following for special services rendered without compensation.

George Nishihara — retired surveyor living at 47-219 A Waihee Rd. Surveyed the grounds of the Community Training Center and prepared a contour map of the area for the guidance of the heavy equipment operators who grubbed and graded the lot.

J. I. Thomson and Company — earth moving contractors. Provided a tractor with operator and a grader to clear and grade the Training Center Property.

Walter Serikaku — grader operator with J. I. Thomson Co.

SPARKY REPORTS ON POSITION TAKEN BY COMMITTEE

Dear Mr. Harper:

On June 3, 1970, I testified before the House Agriculture Subcommittee on Conservation and Credit in support of the Kahaluu Watershed Project. Immediately upon the conclusion of the morning hearings, the Subcommittee, chaired by Congressman Bob Poage of Texas, went into executive session to consider the Kahaluu and other watershed projects. I was informed later the same day that the Subcommittee had not given favorable consideration to the Kahaluu project.

Upon discussing the Subcommittee's action with Mr. Poage, who is also chairman of the full House Agriculture Committee, I learned that the main objection to the Kahaluu project is that it is "primarily non-agricultural," as described at the hearings by

the Department of Agriculture witness himself. The Subcommittee believes that the developers of residential lots would benefit most from the project.

HARPER PROTESTS KAHALUU PROJECT BY-PASS

August 3, 1970

Honorable Spark M. Matsunaga
442 Cannon Building
Washington, D. C. 20025

Dear Spark:

We want you to know how grateful we are to you for personally testifying recently before the Subcommittee in support of the Kahaluu Watershed Project and reporting to us the subsequent developments.

Since your letter arrived in which you informed us the House Agriculture Subcommittee on Conservation and Credit had failed to report our project request favorably, I have sat down several times to reply to your letter. Each time, as I reviewed the reasons conveyed to us for the unfavorable decision, I have set the letter aside with a feeling of futility.

However, I finally decided I can no longer delay in responding to your letter and will attempt to explain the urgency of our need and to place our request for assistance in proper perspective. May we prevail upon you again to present our case to the Subcommittee at the first opportunity in the hope that reconsideration and approval will be granted?

We hope that some of the points and views expressed herein will be of help to you in making such an appeal.

We were disheartened and puzzled to hear that in order to obtain favorable consideration from the Subcommittee, we must conform to criteria that are frankly not attainable for us and far more restrictive than we had been led to believe was acceptable when we submitted our application for assistance five years ago. It was a real shock to learn

roots" community association (Hui Ko'olau) dedicated to influencing and controlling, in a total sense, the kind of a place the Kahaluu Watershed area will become in the future. We look upon a flood control program as the base and structural frame from which a wide range of community improvements will evolve.

Flood control is not only necessary for the protection of life and property but will make possible a total rural area development program and the achievement of such community goals as the following:

a. The preservation, restoration and development of agricultural lands.

b. The control over water pollution.

c. Lifting our community from an economically deprived area to a prosperous one.

d. The development of diverse land and water recreational pursuits.

e. The healing of land scars and a total land treatment program.

f. Fish and wildlife development.

g. Creation of a controlled and orderly environment with desirable social outcomes.

We believe it is important to point out that the urgency of our need for a flood control program and the merit of our grassroots comprehensive planning effort seem to have the full support of the City and County Government and the State Legislature.

As evidence of this, the City and County of Honolulu and the State Legislature have already appropriated almost the full local share of the Kahaluu Water-

haluu project is no longer primarily agriculture and economic factors will prevent it ever becoming so again.

Our engineering advice is that the topography of the watershed, with the three major valley drainage systems joining in the lower flood plain to form the Kahaluu Stream, does not permit a cutback in the integrated flood control plan and any effort to reduce the overall cost of the project is not feasible. On the other hand, each year of delay in going ahead with the project results in rising construction and land acquisition costs, as well as continuing damage from floods.

We have tried in this response to your letter to place the need for approval of the Kahaluu flood control project in a proper perspective as we see it. We have tried to be honest and forthright in expressing our reaction to the Subcommittee's views on the Kahaluu Watershed flood control proposal. We have also carefully reviewed the provisions of the Watershed Protection and Flood Prevention Act and can in no way see where the Kahaluu project violates the intent or the requirements of the Act.

Again, mahalo for all your efforts in our behalf in conveying our points of view to the Subcommittee, and we earnestly hope and pray for reconsideration and favorable action upon our request for assistance.

Sincerely,
Joe C. Harper
President, Hui Ko'olau

Shirley's

the Department of Agriculture witness himself. The Subcommittee believes that the developers of residential lots would benefit most from the project.

Another objection is that the Kahaluu project is "too big"—very much like the Los Angeles project which was turned down. The cost of the Kahaluu project alone is more than the total cost of the five projects which the Subcommittee approved on June 3. In this regard, the Subcommittee considers a cost figure of $2 million as being reasonable for a watershed project.

The Kahaluu Watershed Project is not "dead," but it must be shown to the satisfaction of the Subcommittee on Conservation and Credit that the project is primarily to preserve agricultural areas. Favorable consideration requires conformance with the Subcommittee's views as outlined above.

Aloha and best wishes.

Sincerely,

Spark Matsunaga
Your Representative
To Congress

consideration and approval will be granted?

We hope that some of the points and views expressed herein will be of help to you in making such an appeal.

We were disheartened and puzzled to hear that in order to obtain favorable consideration from the Subcommittee, we must conform to criteria that are frankly not attainable for us and far more restrictive than we had been led to believe was acceptable when we submitted our application for assistance five years ago. It was a real shock to learn that the Subcommittee feels our project is "too big" and not acceptable because it is "primarily non-agricultural."

We had assumed that when our application was approved by the state agency and accepted by the administrator of the Soil Conservation Service, our request was looked upon as being within the official standards for purpose and scope.

We want to re-emphasize the point we have made in earlier correspondence that approval of a comprehensive flood control program for the Kahaluu Watershed is the key basic, essential decision upon which the long-range conservation and development of our total resources rests. Our flood control committee of five years ago has evolved into a broadly representative "grass-

ß. Creation of a controlled and orderly environment with desirable social outcomes.

We believe it is important to point out that the urgency of our need for a flood control program and the merit of our grassroots comprehensive planning effort seem to have the full support of the City and County Government and the State Legislature.

As evidence of this, the City and County of Honolulu and the State Legislature have already appropriated almost the full local share of the Kahaluu Watershed flood control projected budget. The recent session of the State Legislature, by Concurrent Resolution, has designated our area as an Ecological Demonstration Model for the State of Hawaii.

We frankly admit to a feeling of unfairness upon learning after five years of hope and growing confidence, that the mixed agricultural-urban character of our watershed area and the scope of the project do not conform to the Subcommittee's standards. Our letter states that "favorable consideration requires conformance with the Subcommittee's views." We believe it would be unrealistic and futile for us to attempt to meet the Subcommittee's criteria for approval as outlined in your letter. Although agriculture is an important part of our economy, and we hope it will always remain so, our Kahaluu project violates the intent or the requirements of the Act.

Again, mahalo for all your efforts in our behalf in conveying our points of view to the Subcommittee, and we earnestly hope and pray for reconsideration and favorable action upon our request for assistance.

Sincerely,

Joe C. Harper
President, Hui Ko'olau

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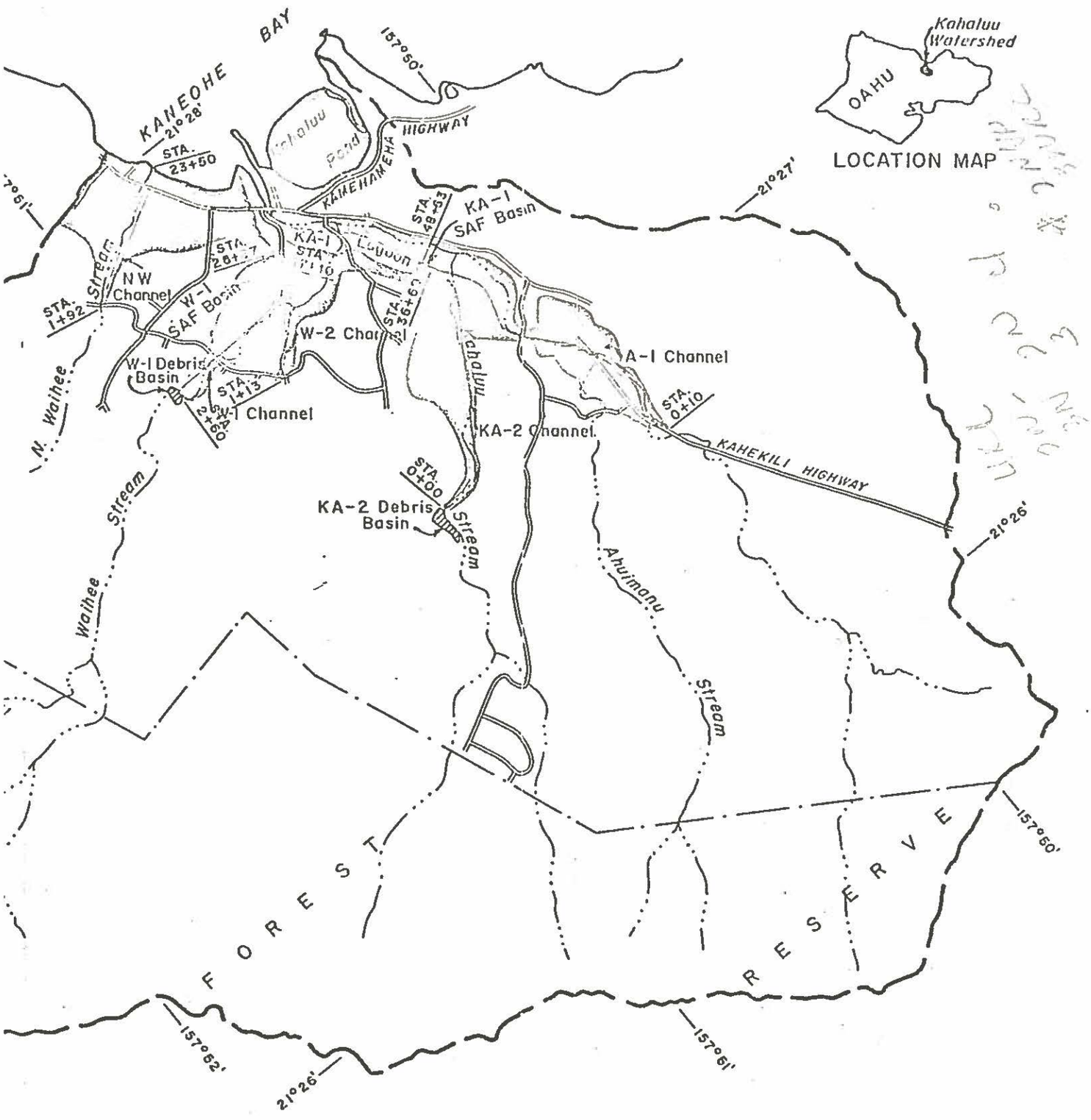


PROJECT MAP

KAHALUU WATERSHED

ISLAND OF OAHU, HAWAII

JULY 1969

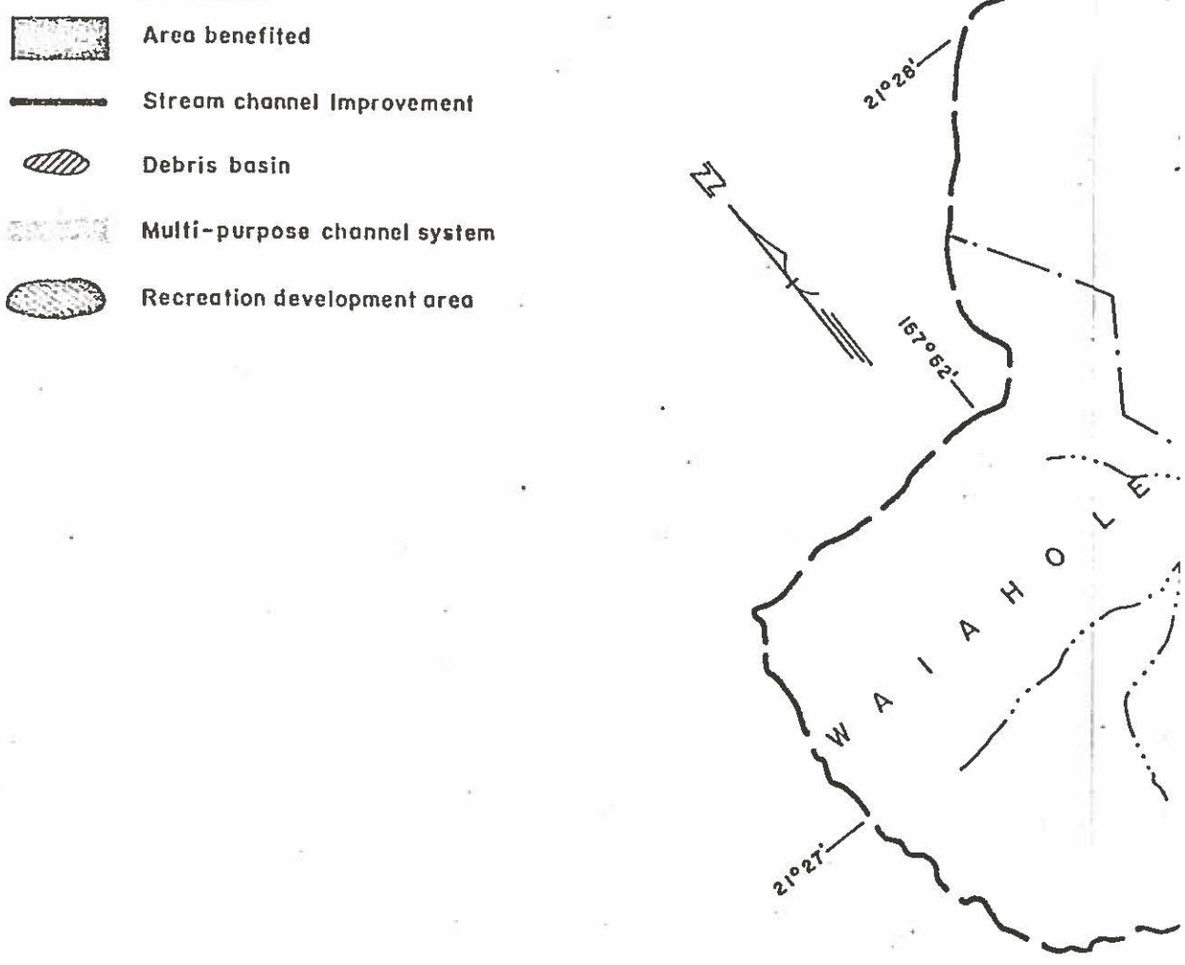
1000 0 1000 2000 3000

SCALE IN FEET

SCALE 1:24,000

Prepared by S.L.W., 5-69

M7-N-21301-10



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